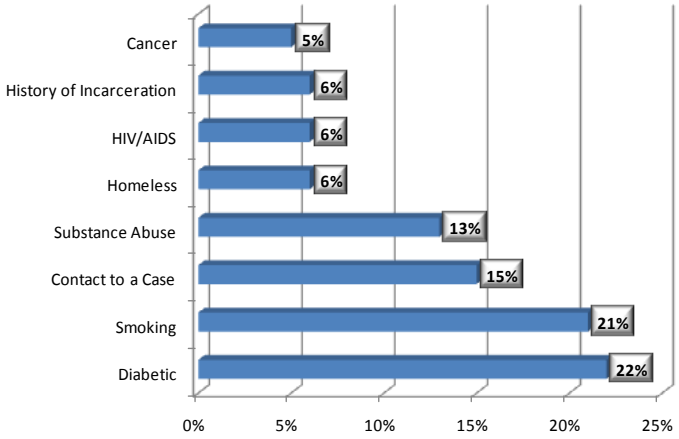
Summary of Tuberculosis in Nevada – *2010 update*

Public Health Messages

Tuberculosis (TB) is a contagious airborne disease (transmitted person to person) caused by the bacteria *Mycobacterium-tuberculosis* which affects everyone independent of age, race or socioeconomic status. In Nevada, 80% of TB cases affect the lungs, but it can also affect other parts of the body, such as the kidneys, spine or brain. One third (1/3) of the world's population is believed to be infected, but the disease lays dormant (latent TB infection [LTBI]) in most people unless their immune system is weakened. In 2010, 14% of TB cases in Nevada had two or more of the risk factors shown on the following graph.

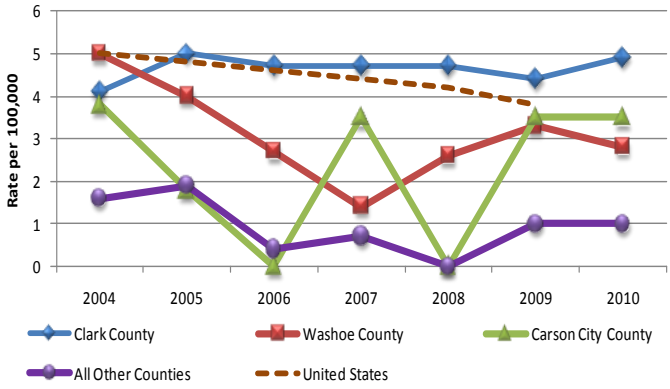
Percent of TB Cases in Nevada, by Risk Factor: 2010



Nevada consistently ranks among the top twenty states in the nation with the highest rates of TB. Nevada ranked 11th in 2009, 16th in 2008 and 20th in 2007.

- Treating an uncomplicated susceptible case of TB requires the standard four drug regimen be administered daily by directly observed therapy (DOT) from a healthcare provider for a minimum of 6 months.
- From 2001 through 2010, Nevada treated 19 Multi-Drug Resistant Tuberculosis (MDR-TB) cases, the most recently diagnosed in March 2010. All MDR-TB cases have complex treatment regimens with an extended duration of therapy which costs TB programs $20,000 to $200,000 per case each year.
- In 2010, 456 newly arriving refugees and immigrants identified as being at risk for TB received thorough and timely TB evaluations in Nevada. This ensures prompt detection of TB disease, appropriate treatment and prevention of future cases in this high risk population.

Rate of TB Cases per 100,000 in Nevada, by County vs. National Rate: 2010



- Healthcare workers are required by law (NAC441A.375) to be screened for TB annually as they are exposed to, and care for, patients at risk for TB.
- The Nevada State Public Health Laboratory (NSPHL) is the central laboratory for TB identification and susceptibility testing in Nevada. In 2010, the NSPHL processed 1,800 clinical specimens for over 1,000 persons suspected of having or identified as having TB, as well as persons having contact with them, to quickly and efficiently identify those infected.

Public Health Activities and Services

Standard of Care, Managing a Case of TB

Once a person is diagnosed as having TB, or suspected of having TB, by a private provider, hospital, clinic, etc. it is reported to the local

For additional information go to: http://www.health.nv.gov, http://www.cdc.gov/tb, and http://sntc.medicine.ufl.edu/rtmccproducts.aspx.

health authority. The case is referred to the care of the TB public health clinic for that health district. That TB program then does the following:

1) Educates the patient about TB, how it is treated, side effects of medications, and performs laboratory tests.

2) Provides the patient DOT daily to ensure the patient completes the required treatment regimen and monitors for side effects.

3) Conducts a thorough interview to identify and assign a risk classification to all contacts.

4) Evaluates contacts for TB infection and provides education about sign and symptoms.

5) Provides preventive therapy to those identified as being infected (LTBI). The health district starts this process again for those contacts diagnosed as having active TB disease through the investigation.

Challenges

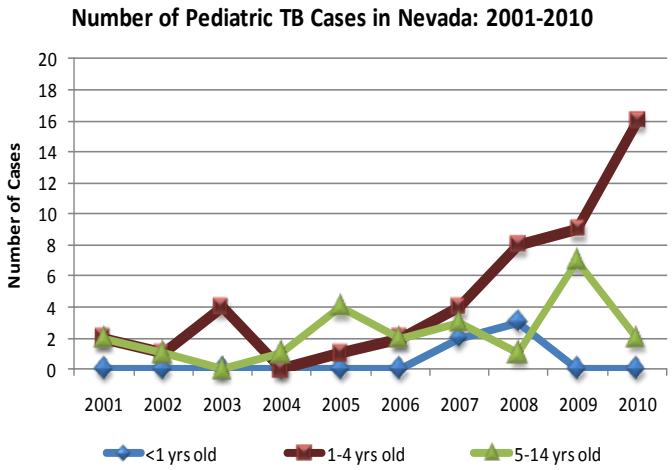
TB: A Public Health Threat

Not everyone with contagious TB wants to be cured. Nevada recently identified two outbreaks of TB, both of these outbreaks occurred in two separate gangs. Due to criminal activity including the use of illicit drugs these individuals, as well as their contacts, were difficult to identify and locate. Both outbreaks required the deployment of technical assistance and epidemiology teams to Nevada by the Centers for Disease Control and Prevention (CDC) to assist with the investigations.

Mental illness, homelessness and the extended duration of therapy also contribute to non-compliance of TB patients. In 2010, 9% of active TB cases required orders to comply and 3 cases required court-ordered treatment and monitoring by a GPS tracking device.

TB: In Nevada's Youth

Nevada has been experiencing an alarming increase in the frequency of TB cases in youth.



Because the immune system of a child is not as developed as adults, children with TB infection have a higher chance of developing active TB disease. It is also more common for children to have TB that affects more than one part of the body, and for the TB to be more serious than it is for adults. Due to this rapid progression, it is imperative that these children are identified and treatment initiated as soon as possible.

What's Being Done to Control TB?

The state and local health jurisdictions coordinate efforts and share resources to address the evolving concerns with the increasing numbers and complexity of Nevada's TB cases. Another priority is to identify interventions and program revisions which will improve Nevada's policies to prevent and control the spread of TB. In 2010, Nevada's TB programs screened over 8,000 individuals at risk for TB, treated over 3,000 for latent infection, and managed 114 active cases of TB disease. The CDC has identified Nevada as a state in need of additional assistance. To support our efforts they will be assigning a Public Health Advisor to Clark County for a guaranteed period of three years.

For additional information go to: http://www.health.nv.gov, http://www.cdc.gov/tb, and http://sntc.medicine.ufl.edu/rtmccproducts.aspx.